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EXAMINER	
D AGOSTA, STEPHEN M	

ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	**Application No.** 10/677,364	**Applicant(s)** TARI ET AL.	
	Examiner Stephen M. D'Agosta	**Art Unit** 2683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.
2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-16* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on *03 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a)☒ All b)☐ Some * c)☐ None of:
1.☒ Certified copies of the priority documents have been received.
2.☐ Certified copies of the priority documents have been received in Application No. _____.
3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Preliminary Amendment

This case is a Continuation of case 09-466191 which was restricted as follows (excerpted from the examiner's Office Action):

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
    I. Claims 1-16, drawn to a method of handoff based on EFI of a transmitted packet, classified in class 455, subclasses 445, 436 & 438.

    II. Claims 17-18, drawn to a method for determining location/position of a cellular phone classified in class 455, subclass 440.

Since the claims found in this Continuation, 10-677364, appear to read on the claims that were originally elected (eg. claims 1-16 and not claims 17-18), the examiner can re-use the references from the parent case. Had the applicant chosen claims similar to claims 17-18 above (from the parent), then the examiner could not use the same art.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-10 and 15-16 rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura U.S. Patent 6,058,312 and Averbuch et al. U.S. Patent 5,530,693 (hereafter referred to as Kimura and Averbuch).

As per **claim 1**. Kimura teaches a mobile wireless apparatus (C1, L27-28 & C1, L31) comprising:

a receiving unit (figure 1, #1) configured to receive a signal/packet (C1, L40) and "having a communication information storing section for storing communication information concerning the wireless communication routes" [C2, L43-45],

the receiving unit detecting an electrical field intensity of a radio signal associated with the signal (eg. packet) and outputting a corresponding electrical field intensity data (C1, L53-55 and C3, 15-18); NOTE: "outputting" is implied since other subcomponents use the stored information for route calculations (C3, L19-21 and C3, L64-67)

the receiving unit detecting an electrical field intensity associated with "each wireless communication route detected (eg. the second base station wireless apparatus) and outputting a corresponding electrical field intensity data. (C3, L15-18)

but is silent on

receiving a first data portion including destination information from a first base station wireless apparatus and a radio control channel (RCCH) analyzing unit configured to determine a destination of the packet based upon the destination information, wherein the receiving unit selectively switches a reception channel to a second base station wireless apparatus that is adjacent to the base station wireless apparatus during receipt of a second data portion of the packet.

Kimura does teach storing communication information concerning wireless communication routes (C2, L43-45) which the examiner interprets as requiring an apparatus that can analyze a control channel (eg. RCCH). Stored data would be used to select among the different communication routes.

Averbuch teaches a first packet of data from a base station (C3, L24-25). One of ordinary skill in the art of data communication will realize that a data packet contains destination-type information (ie. Source and destination addresses). Typical data frames/packets can contain multiple levels of addressing (ie. Layer 2, Layer 3 and a Socket plus base station addressing). Hence, one can conclude that Averbuch's invention transmits a first data portion including destination information from a first base station. Averbuch also states that if the mobile requires a handoff, it will acknowledge the first packet via a target (eg. adjacent) base station. The target base station will then send at least a second portion of the data packet (C3, L26-33). While Averbuch does not explicitly discuss a RCCH analyzing unit, it is obvious that there is a subsystem onboard the mobile that performs this function since the procedures put forth by the applicant are mirrored by Averbuch.

It would have been obvious to one skilled in the art at the time of the invention to modify Kimura's invention, such that it can receive data packets from a first base station and use a device to switch between two base stations, to allow for efficient handoffs between base stations.

As per **claim 2**, Kimura teaches claim 1, further comprising:

a Common Control Channel (CCCH) analyzing unit configured to obtain channel information associated with the second base station wireless apparatus (eg. Kimura does teach storing communication information concerning wireless communication routes (C2, L43-45) which the examiner interprets as requiring an apparatus that can analyze a control channel (eg. CCCH) to obtain channel information),

a storage unit configured to store the channel information (C2, L43-45).

but is silent on wherein the channel information is included in the second data portion.

Kimura teaches automatic selection of an optimal wireless route which requires channel data to be obtained from the different routes/base stations and from first, second, etc. data portion(s).

Averbuch teaches a communication unit/computer that receives a first packet, stores it and acknowledges it [figure 5, step #503, #505 and #511]. To acknowledge a packet, one must "analyze it" and extract pertinent information upon which to acknowledge (eg. I acknowledge receipt of packet #1 sent by host #242 via Base Station #434). Hence, one can conclude that the communication unit uses analysis software ***to analyze one or more packets (eg. amount of data may span more than one packet)***. Averbuch also states that the communication unit is aware of various different base stations in the system (figure 5, steps #511 and #512), hence one can conclude that the unit can determine a destination of the packet based upon analysis.

It would have been obvious to one skilled in the art at the time of the invention to modify Kimura, such that packets are analyzed, to provide means for reading control/channel information contained in the packet(s) for operation of the system.

As per **claim 3**, Kimura teaches claim 2 wherein the electrical field intensity data of the first base station wireless apparatus and the electrical field intensity data of the second base station wireless apparatus are stored in the storage unit (C8-10 and figure 1, #11), and upon the mobile wireless apparatus moving out of a communication area of the first base station wireless apparatus, the receiving unit switches the reception channel based upon the stored electrical field intensity data (C3, L25-31).

As per **claim 4**, Kimura teaches claim 3, further comprising:

An electric field intensity/communication route selection control section (figure 1, #10, and claim 1 above taught use of electric field intensity measuring) that is connected to the communication scheme storing unit (figure 1, #11) to select the receiving unit channel to be used by the mobile (eg. selects the electrical field intensity obtaining unit configured to instruct the storing of the electrical field intensity data in the storage unit in accordance with a timing signal from the RCCH analyzing unit; and a unit coupled to the receiving unit configured to switch the reception channel)
but is silent on the use of a PLL.

The use of a PLL is well known and obvious to an ordinary person skilled in the art and has a plethora of uses in RF communications (eg. used in transmitters and receivers). The examiner takes **Official Notice** that one skilled in the art would use a PLL in a radio transmitter/receiver for optimum performance and increased accuracy.

As per **claim 5**, Kimura teaches claim 1, wherein the electrical field intensity data of the first base station wireless apparatus and the electrical field intensity data of the second base station wireless apparatus are stored in the storage unit (C3, L8-12, L15-18), and upon the mobile wireless apparatus moving out of a communication area of the first base station wireless apparatus, the receiving unit switches the reception channel based upon the plurality of electrical field intensity data (C3, L25-31). (Note: stored data is a "correlation" using field intensity).

As per **claim 6**, Kimura teaches a method of performing wireless communication with a plurality of communication routes (eg. base stations wireless apparatuses) (C1, L11-12), the method comprising:

Detecting an electrical field intensity of a radio signal associated with the packet;

Outputting an electrical field intensity data corresponding to the detected electrical field intensity; (C3, L15-18)

Selectively detecting an electrical field intensity associated with the second base station wireless apparatus and outputting a corresponding electrical field intensity data (figure 1 shows connections to multiple wireless base stations, #1, #2 and #3).

But is silent on

Receiving a packet having a first data portion that includes destination information from a first one of the base station wireless apparatuses;

Determining a destination of the packet based upon the destination information; receiving a second data portion of the packet;

Selectively switching a reception channel to a second one of the base station wireless apparatuses that is adjacent to the first one of the base station wireless apparatus during the step of receiving the second data portion based upon the determining step;

Averbuch teaches wireless communications with a plurality of base stations (C3, L18) and a packet having a first data portion including destination information from a first base station (C3, L23-26). Averbuch teaches switching to a channel on a different (adjacent) base station and receiving a second data portion (C3, L26-33). All packet-type data communications is predicated upon the use of addressing (ie. Source, destination, sockets, etc.). Hence, an ordinary person skilled in art realizes that all packets transmitted (ie. First, second, etc.) would contain destination information in the packet header or payload.

It would have been obvious to one skilled in the art at the time of the invention to modify Kimura, such that a first/second portion of data is received and switched, to provide means for switching among various BTS's.

As per **claim 7**, Kimura teaches claim 6, further comprising:

Obtaining channel information associated with the second base station wireless apparatus (eg. Kimura does teach storing communication information concerning wireless communication routes (C2, L43-45) which the examiner interprets as requiring an apparatus that can analyze a channel to obtain channel information),

A storage unit configured to store the channel information (C2, L43-45).

but is silent on wherein the channel information is included in the second data portion.

Kimura teaches automatic selection of an optimal wireless route which requires channel data to be obtained from the different routes/base stations and from first, second, etc. data portion(s).

Averbuch teaches a communication unit/computer that receives a first packet, stores it and acknowledges it [figure 5, step #503, #505 and #511]. To acknowledge a packet, one must "analyze it" and extract pertinent information upon which to acknowledge (eg. I acknowledge receipt of packet #1 sent by host #242 via Base Station #434). Hence, one can conclude that the communication unit uses analysis software ***to analyze one or more packets (eg. amount of data may span more than one packet)***. Averbuch also states that the communication unit is aware of various different base stations in the system (figure 5, steps #511 and #512), hence one can conclude that the unit can determine a destination of the packet based upon analysis.

It would have been obvious to one skilled in the art at the time of the invention to modify Kimura, such that packets are analyzed, to provide means for reading control/channel information contained in the packet(s) for operation of the system.

As per **claim 8**, Kimura teaches claim 7 wherein the electrical field intensity data of the first base station wireless apparatus and the electrical field intensity data of the second base station wireless apparatus are stored in the storage unit (C8-10 and figure 1, #11), and upon the mobile wireless apparatus moving out of a communication area of the first base station wireless apparatus, the receiving unit switches the reception channel based upon the stored electrical field intensity data (C3, L25-31).

As per **claim 9**, Kimura teaches claim 8, further comprising:
instructing execution of the storing step in accordance with a timing signal from a RCCH analyzing unit, **but is silent on** the use of a PLL.

The use of a PLL is well known and obvious to an ordinary person skilled in the art and has a plethora of uses in RF communications (eg. used in transmitters and receivers). The examiner takes **Official Notice** that one skilled in the art would use a PLL in a radio transmitter/receiver.

As per **claim 10**, Kimura teaches claim 6 wherein a correlation between reception signal intensity and data communication error (eg. the electrical field intensity data) of the first base station wireless apparatus and the correlation between reception signal intensity and data communication error (eg. the electrical field intensity data) of the second base station wireless apparatus are stored in the storage unit (C8-10 and figure 1, #11), and upon the mobile wireless apparatus moving out of a communication area of the first base station wireless apparatus, the receiving unit switches the reception channel based upon the stored electrical field intensity data (C3, L25-31).

As per **claim 15**, Kimura teaches a portable terminal (C1, L12) which can be interpreted as a computing device since it is used in data communication applications (C2, L20-21). Therefore, one can conclude that the computing device has "computer readable medium storing program instructions for execution on a computer system, which when executed by a computer". It is also concluded that the computer can run virtually any computer program, such as one described by Kimura which:
detects and stores electrical field intensity data associated with another base station wireless apparatus based upon the determining step (C3, L15-18).

But is silent on:

Analyzing a packet that is transmitted from a base station wireless apparatus;

Determining a destination of the packet based upon the analyzing step;

Averbuch teaches a communication unit/computer that receives a first packet, stores it and acknowledges it [figure 5, step #503, #505 and #511]. To acknowledge a packet, one must "analyze it" and extract pertinent information upon which to acknowledge (eg. I acknowledge receipt of packet #1 sent by host #242 via Base Station #434). Hence, one can conclude that the communication unit uses analysis software. Averbuch also states that the communication unit is aware of various different base stations in the system (figure 5, steps #511 and #512), hence one can conclude that the unit can determine a destination of the packet based upon analysis.

It would have been obvious to one skilled in the art at the time of the invention to modify Kimura, such that packets are analyzed, to provide means for reading control/channel information contained in the packet(s) for operation of the system.

As per **claim 16**, Kimura teaches claim 15 and hence can store program instructions for causing the portable terminal (eg. computer) to perform the step of: selectively switching a reception channel to the other base station wireless apparatus based upon the stored electrical field intensity data (C3, L25-31). Note: the data communication error referenced is a function of received signal intensity (C3, L8-12)

Claims 11-14 rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura/Avebuch and further in view of Kamm et al. US 5,457,680 (hereafter Kamm).

As per **claim 11**, Kimura teaches a wireless communication system (C1, L10-12) **but is silent on** providing communication between a host server and a terminal unit over a network, comprising:

A plurality of wireless servers connected to the network; and

A plurality of wireless base station apparatuses configured to communicate with the terminal unit,

The plurality of wireless base station apparatuses correspondingly coupled to the plurality of wireless servers, each of the wireless base station apparatuses

Adding an index to channel information associated with each of the other wireless base station apparatuses that are adjacent.

Kamm teaches a wireless system (C1, 39-42) that uses Mobile Data Gateways (eg. wireless servers) [C3, L42-46], a plurality of base stations connected to the MDG's (C3, L32). **NOTE**: The MDG's are situated in the same place and perform the same overall functions as that of the applicant's wireless servers. Kamm teaches that routing information (eg. an index) is contained in data that flows throughout the system (figure 1a, note routing table #208, figure 1b and also figure 1f, 1g, 1h and 1j). Adjacency is implied since the routing tables reference B1, B2 and B3 (in figure 1) which are adjacent to each other in the figure.

It would have been obvious to one skilled in the art at the time of the invention to modify Kimura, such that server connections are provided to terminal units, to provide means for data transfer.

As per **claim 12**, Kimura teaches claim 11 **but is silent on** wherein one of the wireless servers being designated as a home server, the home server having positional information of the terminal unit within the communication areas of the wireless servers. Kamm teaches a "home MDG" which performs the same overall functions as that of the applicant's wireless server (C3, L42-46). Kamm also teaches that the home MDG coordinates the location of the mobile unit and any handoff that is required (C3, L56-64).

It would have been obvious to one skilled in the art at the time of the invention to modify Kimura, such that one server is a home server with positional information stored upon it, to provide means for tracking the different terminal units (eg. similar to an HLR).

As per **claim 13**, Kimura teaches claim 11 **but is silent on** wherein the network is an Internet Protocol (IP) based network. Kamm teaches that the MDG is based upon an IBM RS/6000 model that uses TCP/IP (C12, L2-10).

As per **claim 14**, Kimura teaches claim 13 **but is silent on** the use of a dynamic host configuration protocol (DHCP) server coupled to one of the wireless servers to issue an IP address associated with the terminal unit.

The IP layer 3 protocol has only one of two configuration choices available; static IP addressing or DCHP. Using static IP addresses would require a significant manual effort while DHCP requires only a server and little manual effort. DHCP is easily configured via commercial software (eg. Microsoft Window NT, etc.). This server would typically be situated near (eg. on the same LAN segment) the wireless server (so as to be centrally located).

It would have been obvious to one skilled in the art at the time of the invention to modify Kimura, such that DHCP is used, in order to provide dynamic means to issue IP addresses to the terminal units.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

1. Schaefers US 5,961,607 teaches data flow in communication system.
2. Jawanda US 6,243,581 teaches seamless roaming in wireless network.
3. Quinn US 5,303,289 teaches communication transfer in cell network.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. D'Agosta whose telephone number is 703-306-5426. The examiner can normally be reached on M-F, 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Trost can be reached on 703-308-5318. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Stephen D'Agosta

PRIMARY EXAMINER
7-05